

*A newsletter for Gem and Mineral enthusiasts in and around the Raleigh, North Carolina area.*

## Special Interest Articles:

- Prez Sez
- September Door Prize - Vanadinite
- The Smithsonian Gem and Mineral Collection
- Field Trip Report

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## Prez Sez

October is a fun meeting for adults and kids alike - the fall assembly of grab bags for our Spring Show. We will have one more grab bag making session in March. Your task is to bring material for the bags to the meeting. Bring those extra field trip rocks. Walt Milowic has volunteered to bring food to provide us strength for this enterprise. I will demonstrate how much material to pack and

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## September Door Prize - Vanadinite

By Jack Fried

I am sorry; however, I am not a writer so I will not be much on the history of this mineral. I have therefore googled it and have taken the following info from "Wikipedia"

"Vanadinite is an uncommon mineral, only occurring as the result of chemical alterations to a pre-existing material. It is therefore known as a secondary mineral. Vanadinite is a mineral belonging to the apatite group of phosphates, with the chemical formula  $Pb_5(VO_4)_3Cl$ . Vanadinite is a lead

chlorovanadate. It is composed (by weight) of 73.15% lead, 10.79% vanadium, 13.56% oxygen, and 2.50% chlorine. Each structural unit of Vanadinite contains

a chlorine ion surrounded by six divalent lead ions at the corners of a regular octahedron, with one of the lead ions provided by an adjoining Vanadinite molecule.

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**Tar Heel Gem & Mineral Club, Inc.**

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**We're on the Web!**

See us at:

[www.tarheelclub.org](http://www.tarheelclub.org)

**Program & Refreshments**

REFRESHMENT SCHEDULE:

Coordinator: Need Volunteer

October Hummels  
November OPEN

PROGRAM SCHEDULE:

October Grab Bags  
November Elections & Thank You from The Club

Remember, the club will reimburse you for up to \$75 (bring your receipts to the treasurer).

**Field Trip Information**

Rougemont Quarry

When: Saturday, October 18, 2014, 9:00 am until 1:00 pm. DO NOT ARRIVE LATE!

Where: 1423 Bacon Road, Rougemont, NC 27572

Collecting focus: Looking for Calcite; Quartz; Maybe smoky quartz; Epidote;.

Requirements: Hard Hats; Steel Toed Boots (Absolutely NO Tennis Shoes, please); Orange or Green safety vests; Bring water or something to drink; Gloves.

Tools: Rock Hammer; Chisel; 3 Lb. Hammer; Newspaper to wrap specimens; Bug Spray; Snacks; Long Screwdriver; 5 Gallon Bucket or backpack; Other tools of your choice;

Who: Please RSVP to Shirley. 919-848-1085 or [Richard60Green@yahoo.com](mailto:Richard60Green@yahoo.com)

**October B-Day Members**

- Gerald Beck
- Mark Davis
- John Everette
- Brian Gray
- Larry Jackson
- Liliane Michniak
- Joe Moylan
- Kendra Niederkorn
- Alan Santala
- Shaun Shelton
- Robin Suddaby
- Monique Willick



Membership applications may be mailed to:

Tar Heel Gem & Mineral Club, Inc.  
Attention: Treasurer  
10609 Chelsea Drive  
Raleigh, NC 27603

## Tar Heel Gem and Mineral Club, Inc. - September Meeting Minutes

Tuesday, September 16<sup>th</sup>, 2014

Attendees = 24

### Refreshments:

Thanks so much to Cyndy & Corinne for bringing the munchies and filling in for Walt who was not able to make it to the meeting.

### Opening of Club Meeting:

There was much chatting while eating and Cyndy called the meeting at 7:40 pm.

### Program:

#### " The Smithsonian Gem Collection, Museum of Natural History": George & Obsidian Harris

The Harris's proceeded to do the presentation of the Smithsonian's Gem collection.

### New Business:

Birthdays in September were addressed  
Cyndy inquired about visitors and there was 1 and they talked about a recent field trip they attended.

Karen Satala talked about mineral digging in Tucson

Dr. Mike talked about how he got into rock & minerals also.

Mary did the same too.

Debbie Oldham donated the mineral collection in memory of William & Shirley Hon, her parents.

## September Door Prize - Vanadinite

Continued from page 1

The distance between each lead and chlorine ion is 317 picometres. The shortest distance between each lead ion is 4.48 Å. The octahedron shares two of its opposite faces with that of neighboring Vanadinite units, forming a continuous chain of octahedrons. Each vanadium atom is surrounded by four oxygen atoms at the corners of an irregular tetrahedron. The distance between each oxygen and vanadium atom is either 1.72 or 1.76 Å. Three oxygen tetrahedrons adjoin each of the lead octahedrons along the chain. Crystals of Vanadinite conform to a hexagonal system of symmetry. It is one of the main industrial ores of the metal vanadium and a minor source of lead. A dense, brittle mineral, it is usually found in the form of red hexagonal crystals. It is an uncommon mineral, formed by the

## Prez Sez

Continued from page 1

when we reach just small pieces of material, we will stop the assembly process. Our goal is 500 bags filled in Fall and 500 bags filled in Spring.

Also on the schedule for Tuesday is the nomination of officers. The election will be at the November meeting. The first draft of the By-Laws is ready for review. They are located in this newsletter. Please do your homework and review the By-Laws from your membership packet to see any changes. Voting on the changes will take place at the November meeting. If you note specific items that need to be discussed, please contact one of your Executive Officers with these items. We will then discuss this at the next By-Laws

### Old Business:

One person talked about the fieldtrip looking for Fossil pieces.

This past Sunday there was a meeting of the Board to work on the By-Laws.

No word on the web site as yet. But, it is a work in progress.

Cyndy talked about various organizations to which the club can donate funds to.

So far 4 organizations have been donated to.

Cyndy inquired about Old Business as well as New to be covered.

### Door Prize:

The Door Prize drawing was done and Jack Fried won and chose Vanadinite.

Congratulations! Jack Fried.

### Close of Meeting:

Cyndy called the meeting to a close at 9:30 pm.

Respectfully Submitted

Obsidian Harris,

Secretary, Tar Heel Gem and Mineral Club, Inc.

oxidation of lead ore deposits such as galena. It was first discovered in 1801 in Mexico."

This is a beautiful red specimen of Vanadinite. It reminds me of drusy quarts except for the color. Its crystals started small and then they get larger as you get to the other end.

Probably like many of you, I have been told by the boss of the house that I was not to bring any more "rocks" home. However, I could not resist. Fortunately, it was a great piece and she was happy I brought it home and thus I was able to keep it.

The crystalline structure in this color makes this a very interesting specimen. It reminded me of the Barite that I have in my collection. This color will enhance the blue and yellow Barite that I have in my collection.

Jack Fried

committee meeting. We also have the official document to change "Articles of Organization" that will require a vote. The other document with the President's letter on the front, does not require a vote from the membership and will be modified by the committee. However, input is always welcome. It will be published at a later date also. I expect this complete process to take many months, since it will be bisected by the upcoming show. As long as we keep moving forward, progress will be made.

Look forward to seeing you all on Tuesday,

Cyndy Hummel

President, Tar Heel Gem and Mineral Club, Inc.

## The Smithsonian Gem and Mineral Collection

By Merilee Chapin, Duncan Pay, Jim Shigley, and Pedro Padua

This raspberry-and mint-colored tourmaline—nicknamed the “Steamboat”—is one of the world’s finest and most valuable mineral specimens.



“Born of fluid, heat, and pressure, minerals and gems dazzle us with their breathtaking colors, shapes, and diversity.” These words welcome visitors to the gem and mineral displays at the Smithsonian’s National Museum of Natural History. As they explore—and come face to face with nature’s artistry—they end up with an understanding that gemstones actually came out of the earth in beautiful—but rough—form.

It’s what the museum’s curator, Jeffrey Post, Ph.D., calls a “teaching moment” for a lot of people. That’s the goal, he says—for people “to have that exciting moment, to think about the earth in a different way.”

The Smithsonian Institution is the world’s largest museum and research complex. Located on the National Mall in Washington, D.C., the complex includes 19 museums and galleries, the National Zoological Park, and nine research facilities.

The Institution’s original funding came in the form of a bequest to the US federal government, established by British scientist James Smithson (1765-1829) and awarded upon his death. In 1836, his legacy—with a value at the time of about \$500,000—was officially accepted by Congress. After additional years of debate, the Smithsonian Institution was finally established in 1846 as a trust to be administered by a Board of Regents and a Secretary of the Smithsonian.

Today, the National Museum of Natural History is part of that vast complex. It opened in 1910 and houses exhibits that encompass the animal kingdom, human origins, world cultures, and the earth sciences.

Tucked into the eastern wing of the museum’s second floor is the Janet Annenberg Hooker Hall of Geology, Gems, and Minerals. Dedicated to the earth sciences, it houses one of

the world’s largest gem and mineral collections, including such world-famous gems as the Hope diamond, Logan sapphire, and Rosser Reeves star ruby, along with countless thousands of less-famous but equally spectacular gem and mineral specimens.

Directly behind the public display area is the mineral research wing, where the GIA team was allowed unprecedented access to this national treasure.

### THE MINERAL REFERENCE COLLECTION

The museum’s mineral reference collection is one of three in the Department of Mineral Sciences: minerals (including gems), meteorites, and rock and ore. Dr. Post explains that this part of the museum deals with the “hard, non-living part of the earth...A small oasis of mineral sciences in a large sea of biology” within the museum. But, he adds, “since the earth is mostly made up of rock, we understand the importance of our role here.”

The research collection houses about 375,000 mineral specimens from around the world. It’s one of the largest collections of its kind, with great value to the scientific community. The purpose of the collection is to support scientific research. All specimens are available for use by researchers around the world, who either come to the museum or have specimens sent to them. Some of the Smithsonian’s own researchers also work in the Institution’s laboratories.

The minerals are arranged according to the Dana System, which classifies minerals into numbered categories based on chemical composition and crystal structure. The system was originally developed by James Dwight Dana (1813-1895), an American geologist and mineralogist. He outlined the original concept in his *System of Mineralogy* (1837). In 1997, the work was updated by a team of mineralogists to accommodate newly discovered materials and retitled Dana’s *New Mineralogy*, Eighth Edition.

The Smithsonian’s minerals are arranged in long banks of drawers, with all similar kinds of minerals grouped together. He points to the drawers in front of him, where quartz specimens are arranged alphabetically by locality.

Each specimen has a number that’s keyed to a computerized database, where they can find information about the specimen and also keep track of its location. If a researcher is interested in studying a particular mineral, museum staffers take a chip off the larger specimen and give or send it to the researcher, with the agreement that the researcher will then share the results of his or her study with the museum. This information is added back into that specimen’s database. Any scientist in the world has access

to the reference collection as long as they're connected to a legitimate research organization.

### ORGANIZING THE COLLECTION

Arrangement according to the Dana System means all similar kinds of minerals are found together, making it very accessible for scientists. "Not very good for the public," Dr. Post observes, "but good for scientists."

As he explains the collection's layout, he's standing in front of the beryls: "One of the more dramatic silicates in terms of crystals and colors."

He has his assistant pull out a few beryl drawers. They hold a wonderful variety of crystal sizes and shapes and all the colors that make beryl so popular: blue-green aquamarines, pink morganites, green emeralds, gold-colored heliodors. Each specimen has a box and its own number, which is keyed to the collection's computerized database.

The beryls are arranged alphabetically by where they came from. In the first drawer are the A's and B's—places like Afghanistan and Brazil; the next drawer includes Burma, California, Colombia; then a drawer with beryls from Colorado, Ireland, Italy, Mozambique, and Namibia. He points out that the alphabetical arrangement accommodates a mixture of states and countries.

Later, when asked about the possibility of different mineral types growing together, he takes out a large, spectacular specimen from a fairly new locality—Erongo, in Namibia. It's studded with beautiful aquamarine crystals and two varieties of tourmaline, all embedded in a matrix of white albite for striking contrast.



Dr. Post states that the advantage of the national research collection is that it will always be there, so that hundreds of years in the future, a scientist can re-study a sample of the same specimen studied by his centuries-earlier counterpart. This makes it the standard mineral collection for the international scientific community, available to present and future generations of scientists.

### IN THE BLUE ROOM

The collection's main secure storage area, which they call the Blue Room, is where they store the more high-value portions of the mineral collection. The Blue Room and the

nearby Gem Vault contain about 20,000 mineral specimens. This area is the source of most of the pieces selected for public display. It also serves as an acquisition area: As new specimens come in, they're placed in a secure work area for unpacking and classification.

Dr. Post explains that visitors to the exhibits have some idea where gems come from, but don't always make the connection all the way back to the earth. However, when they walk into the galleries and see the beautifully formed crystals and extraordinary colors of the exhibit's mineral specimens, they experience what he calls "a-ha moments."

### IN THE GEM VAULT

Around the corner from the Blue Room is the Gem Vault, where they store high-value specimens and new arrivals under highly secure conditions.

He shows off a fairly new addition to the collection: a magnificent platinum and diamond necklace with a fascinating emerald carving as its centerpiece. It was willed to the museum by Madeleine Murdock, a New Jersey resident. The emerald itself weighs about 100 carats. What's unique and unusual about it is that it's a slice, a cross-section through an emerald crystal that still possesses the six-sided outline of the crystal's original hexagonal shape. Its magnificent color is zoned from light-toned in the center to a darker green along the outer surface.



Based on its characteristic inclusions, museum researchers identified Colombia as its source. From there, it was probably shipped to India in the 1600s, where the Mogul rulers were particularly fond of emeralds from the New World. Its lotus-blossom motif was carved soon after its arrival in India. Two small drill-holes through the sides mean it was originally meant to be sewn onto cloth or ribbon as an amulet or garment decoration.

Markings on the setting indicate that the emerald carving eventually made its way from India to Paris in the 1920s, during the Art Deco period. In Paris, it was reset into a magnificent platinum and diamond setting. Eventually, it made its way to Mrs. Murdock's collection. Dr. Post cites it as a wonderful example of an emerald moving around the world: from Colombia, to India, to Paris, to New Jersey, and finally to Washington, DC.

Showing another specimen from the Gem Vault collection, Dr. Post holds a nondescript object that looks something like a small brown rock. It's from an opal-mining area near a small town called Yowah in Queensland, Australia. He describes it as "a curious-looking object" that locals call a Yowah Nut. Of course, it's not a nut—it's actually an ironstone concretion. When miners break one open, they sometimes find opal inside.

This one, first presented to Dr. Post by a particularly enthusiastic opal miner, was cracked open to reveal an especially beautiful opal interior. The "nut" was not cut exactly down the center, so the thinner layer—with its dark mineral background—shows a deep blue color, while the thicker layer has a more typical white opal appearance. Both sides display dazzling play-of-color. The miner called it his "OMG opal" because every time he opened it up to show someone, they'd exclaim "Oh my gosh!!" Thanks to one of the museum's generous donors, it later became part of the museum's collection.



Dr. Post enthuses that this falls in the category of "...when you think you've seen everything..."

"It reminds you that earth is a pretty amazing place and we haven't seen everything yet...It's one of nature's really nice little surprises." He also observes: "It's not always the value of the object, it's the sense of surprise...of something different. That's one of the reasons we like things like this. We like to jar people out of their normal way of thinking a little bit."

An unpromising nugget opens to reveal a hidden interior: a beautiful opal with spectacular play-of-color. Curator Jeff Post explains how this opal miner's find-of-a-lifetime came to be in the museum's collection.

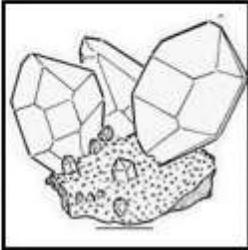
As Dr. Post tells it, the purpose of the Smithsonian's public gem and mineral display, as well as its research collection, is to make people aware of how fascinating the earth really is. Inspired by that philosophy, Dr. Post and his staff have designed a vast and deep collection of the earth's wonders and opened them up for all of the world to see.

Reference:

<http://www.gia.edu/gia-news-research-smithsonian-gem-mineral-collection>

A NON-PROFIT EDUCATIONAL ASSOCIATION

**2014  
Columbia Gem & Mineral Society  
47th Annual**




# Gem Mineral & Jewelry Show

**Fri. Nov. 21, 10 - 6  
Sat. Nov. 22, 10 - 6  
Sun. Nov. 23, 12 - 5**

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## October Treasurer's Report

By Corinne Hummel

October Treasurer's Report

Aug. Ending /	
Sep. Beginning Balance	\$4,639.35
-----	
Deposits (+)	
No Deposits	\$30.00
-----	
Sub total	\$30.00

Checks Written (-)	
Newsletter	\$116.84
Returned check & fee	420.00
Paper supplies	36.89
Food	43.30
-----	
Sub Total	\$617.03
-----	
Sep. Ending /	
Oct. Beginning Balance	\$4,052.32

## UPCOMING SHOWS

**October 17 - 19, 2014: Knoxville, TN** - Knoxville Gem and Mineral Society will hold its 24th Annual Gem & Mineral Show. Kerbel Temple, 315 Mimosa Ave, Knoxville, TN. Hours: Fri. 10:00 AM - 6:00 PM. Sat. 11:00 AM - 5:00 PM. Sun. 11:00 AM - 5:00 PM. The Gem and Mineral Show will have many vendors that offer great products including a wide variety of jewelry, rare fossil and mineral specimens, meteorites, gems of all colors shapes & sizes, lapidary & jewelry equipment, and much more. Admission: \$5 per day or 3 day pass for \$8; Children under 12 FREE. Contact information is: [www.knoxrocks.org/gemshow.html](http://www.knoxrocks.org/gemshow.html)

**November 22 - 24, 2014: Columbia, SC** - The Columbia, SC Gem & Mineral Society will hold its 46th Annual Gem, Mineral, & Jewelry Show 2014. Jamil Temple, 206 Jamil Rd. (Exit 106A off I-26), Columbia, South Carolina 29210. Hours: Friday November 22, 10:00 - 7:00. Saturday November 23, 10:00 - 6:00. Sunday November 24, 12:00 - 5:00. Jewelry, beads, loose stones, fossils, minerals, gold, silver, & tools for sale. Geodes sold & cut. Club member's rock collections on exhibit & lapidary demonstrations. Admission is \$5.00 for adults, children sixteen & under are free with adult. All military & their dependants are free. Contact information is: Sue Shrader...Publicity...803-736-9317 [ashrader@mindspring.com](mailto:ashrader@mindspring.com) Fax 803-736-2578. Sharon Sterrett...Dealers...803-356-1472 [ssterrett@sc.rr.com](mailto:ssterrett@sc.rr.com) The society website is [www.cgams.org](http://www.cgams.org)

**Vugsites** The following are some links to Web-Sites that may interest some of our members:

<http://www.amfed.org> / <http://www.amfed.org/sfms> These are the official sites for the organizing body that the Tar Heel Gem & Mineral Club is founded under. I would strongly urge all members to check them out on a regular basis.

[http://www.amfed.org/sfms/lodestar\\_newsletter.html](http://www.amfed.org/sfms/lodestar_newsletter.html) The SFMS Lodestar Newsletter

<http://www.carolinageologicalsociety.org/CGS/Home.html> This site provides numerous downloadable field-trip guide books, maps, and charts of the Carolinas. It will prove to keep any avid rock hound busy for years. Great Site!

[http://www.ncminerals.com/ncmineralswebsite\\_files/page0011.htm](http://www.ncminerals.com/ncmineralswebsite_files/page0011.htm) And while we are on the subject, try this link. Its titled: Links of Interest to Rock hounds in NC. It will take you to a list of links for North Carolina gems and minerals.

<http://www.rocksforkids.com/> Just like the name says, a nice place to steer the younger members.

Information & photographs of over 6300 specimens from the Glenn & Martha Vargas Gem & Mineral Collection.

<http://www.rockhoundlounge.com> Scott Laborde, a club member maintains his own web site that might be of interest to people collecting in and around Wake County.

[http://www.msnbc.msn.com/id/29726500/ns/technology\\_and\\_science-science](http://www.msnbc.msn.com/id/29726500/ns/technology_and_science-science) This site highlights a half dozen of the most recent significant fossil finds.

<http://appmodo.com/13971/mole-quest-for-the-terracore-gem-app-review-for-the-iphone-and-ipod-touch/> If you have an iphone or an ipod touch, this rock-hounding may be the game for you.

[http://diamonddanpublications.net/index\\_files/page0009.html](http://diamonddanpublications.net/index_files/page0009.html) Diamond Dan's Mini Miner's Monthly

I would like to encourage all members of the THG&MC that maintain their own presence on the internet to send me a link to their site to be published in future Vugsites so that other club members may learn and enjoy the craft, the art, the interests that many of us have in common.

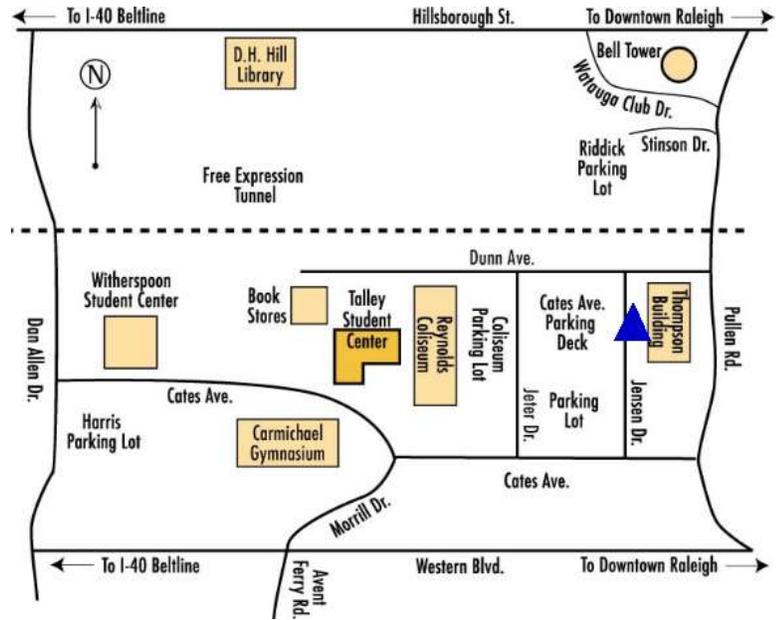
Park in the Cates Ave. Parking Deck off Jensen Dr. Enter Thompson Building directly across from the parking lot.

**Our Next Meeting is  
October 21, 2014 @ 7:30PM  
Thompson Building / NCSU Campus.**

***About Our Organization...***

The Tar Heel Gem and Mineral Club, Inc. was formed in 1974 as a nonprofit educational organization for people who enjoy the lapidary arts, earth sciences, and related subjects. The main objectives of the club are to investigate, preserve, and share knowledge of rocks, minerals, and precious stones, and to promote interest in mineralogy, paleontology, earth sciences, and lapidary techniques, among club members and among the general public. The club pursues these goals through publications, meetings, lectures, field trips, exhibits, demonstrations, and other activities.

**Come and be a part of the Fun!**



**TAR HEEL GEM & MINERAL CLUB**  
10609 Chelsea Drive  
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